

Appl. N. 09/927,320
Amdt. Dated March 4, 2004
Reply to Office Action of November 11, 2003

Remarks & Arguments

In the Office Action, the Examiner noted that Claims 2-8, 10-14, 16, 18, 30 and 31 are pending in the application, and that Claims 2, 8, 10-14, 16, 18, 30 and 31 are rejected. By this amendment, Claims 2-8, 10-14, 16, 18, 30 and 31 have been canceled without prejudice and Claims 32-56 have been added. Thus, Claims 32-56 are pending in the application. The amendments herein do not add new matter to the application.

Independent Claim 32 is patentable over Hsieh (US 6,262,453), Blanchard (US 4,893,160) and the combination thereof. Blanchard teaches a single insulative layer 40 formed by an oxidation process. Hsieh teaches that the second insulative layer 120' is formed by oxidizing the first drain region 110. The embodiment of the present invention of Claim 32 recites that a thick oxide layer 120', which is grown from the N+ epitaxial layer 110, introduces substantial stress in the N+ epitaxial layer 110. Furthermore, this embodiment recites that a thick phosphosilicate glass or borophosphosilicate glass layer, which is deposited, does not introduce substantial stress in the first drain region 413. Accordingly, Claim 32 includes the limitation that the second insulative layer 431 is not formed by oxidizing said first drain region 413. The limitation that the second insulative layer 431 is not formed by oxidizing said first drain region is not found in Hsieh and/or Blanchard.

Independent Claim 40 is also patentable over Hsieh (US 6,262,453), Blanchard (US 4,893,160) and the combination thereof. Blanchard teaches that the insulative layer 40 is silicon

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dioxide and has a uniform thickness. Hshieh teaches that the first insulative layer 120 and the second insulative layer 120' are both oxides. The claimed embodiment recites that a thick oxide layer 120', which is grown from the N+ epitaxial layer 110, introduces substantial stress in the N+ epitaxial layer 110. Furthermore, the claimed embodiment recites that a thick phosphosilicate glass or borophosphosilicate glass layer, which is deposited, does not introduce substantial stress in the first drain region 413. Accordingly, Claim 40 includes the limitations that the first insulative layer 415 is an oxide and that the second insulative layer 431 is phosphosilicate glass and borophosphosilicate glass. The limitation that the first insulative layer 415 is an oxide and that the second insulative layer 431 is phosphosilicate glass or borophosphosilicate glass is not found in Hshieh and/or Blanchard.

Independent Claim 46 is also patentable over Hshieh (US 6,262,453), Blanchard (US 4,893,160) and the combination thereof. Blanchard teaches that the insulative layer 40 is silicon dioxide and has a uniform thickness. Hshieh teaches that the first insulative layer 120 and the second insulative layer 120' are both oxides. The present invention teaches that a thick oxide layer 120', which is grown from the N+ epitaxial layer 110, introduces substantial stress in the N+ epitaxial layer 110. Furthermore, the present invention teaches that a thick phosphosilicate glass or borophosphosilicate glass layer, which is deposited, does not introduce substantial stress in the first drain region 413. Accordingly, Claim 46 includes the limitations that the first insulative layer 415 is silicon dioxide and that the second insulative layer 431 is phosphosilicate glass and borophosphosilicate glass. The limitation that the first insulative layer 415 is silicon

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dioxide and that the second insulative layer 431 is phosphosilicate glass and borophosphosilicate glass is not found in Hsieh and/or Blanchard.

Conclusion

For all the reasons advanced above, Applicants respectfully submit that the present application is in condition for allowance and that action is earnestly solicited. The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

The Commissioner is hereby authorized to charge any additional fees, which may be required for this amendment, or credit any overpayment, to Deposit Account 23-0085. In the event that an extension of time is required, or may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account 23-0085.

Respectfully submitted,
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